

WHAT IS CLAIMED IS:

1 1. A method for closing a left atrial appendage of a patient's heart,
2 said method comprising:

3 positioning a closure instrument through a percutaneous passage beneath
4 -- the rib cage, over an epicardial surface, and adjacent to the left atrial appendage; and
5 closing the left atrial appendage using the closure instrument.

4. A method as in claim 3, wherein closing comprises looping, suturing, stapling, clipping, riveting, clamping, or fusing the left atrial appendage at a neck region thereof.

1 6. A method as in claim 1, wherein the method is performed while the
2 patient's heart is beating.

1 7. A method as in claim 6, wherein the method is performed while
2 both lungs of the patient remain inflated. ,

1 8. A method as in claim 7, wherein the method is performed while the
2 patient is under a local anesthetic.

5 exterior of the left atrial appendage prior to placing the closure element over the left atrial
6 appendage.

1 10. A device for closing a left atrial appendage of a heart, said device
2 comprising:

3 a shaft having a proximal end and a distal end, wherein the distal end is
4 adapted to percutaneously enter a pericardial space, advance over an epicardial surface,
5 and approach the exterior of the left atrial appendage; and

6 means carried by the shaft for closing the left atrial appendage when the
7 distal end of the shaft is positioned adjacent to the left atrial appendage.

1 11. A device as in claim 10, wherein the shaft has a length in the range
2 from 10 cm to 40 cm, a width in the range from 2 mm to 20 mm, and a thickness in the
3 range from 1 mm to 10 mm.

1 12. A device as in claim 10, wherein the shaft is curved over its length.

1 13. A device as in claim 12, wherein the curvature of the shaft is
2 adjustable.

1 14. A device as in claim 12, wherein the device has a crescent-shaped
2 cross-section.

1 15. A device as in claim 10, wherein the distal end is configured to lie
2 within an atrioventricular valve groove of the heart.

1 16. A device as in claim 15, wherein the shaft has at least one lumen
2 which extends from the proximal end to exit ports spaced inwardly from the distal end by
3 a distance in the range from 0.5 cm to 5 cm.

1 17. A device as in claim 16, wherein the closing means extends
2 through the at least one lumen.

1 18. A device as in claim 17, wherein the closing means comprises a
2 grasping tool which extends through one of the lumens, said grasping tool being adapted
3 to temporarily grasp the left atrial appendage.

19. A device as in claim 18, wherein the closing means further
comprises a closing tool adapted to permanently close the left atrial appendage while it is
being temporarily closed with the grasping tool.

20. A device as in claim 12, wherein the shaft has at least a second
lumen.

21. A device as in claim 20, further comprising a viewing scope
positionable through the second lumen in the shaft.

22. A device as in claim 10, further comprising a handle attached to the
proximal end of the shaft.

23. A device as in claim 21, wherein the shaft has at least a third lumen
for irrigating the pericardial space.

24. A device as in claim 10, further comprising an expander for
separating the pericardium in the region of the left atrial appendage.

25. A device as in claim 24, wherein the expander comprises an
inflatable balloon.

26. A kit comprising:
a closure device; and
instructions for use setting forth a method as in claim 1.

27. A method as in claim 1, further comprising separating the parietal
pericardium from the visceral pericardium near left atrial appendage prior to closing the
left atrial appendage to create a space over the atrial appendage.

28. A method as in claim 27, further comprising viewing the atrial
appendage through the space.

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